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Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

10/601,616

Applicant(s)

MCCOLLUM ET AL.

Examiner

Jason M. Han

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-79 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 76-79 is/are allowed.
- 6) ☒ Claim(s) 1-8, 11-32, 36-48, 51 and 53-75 is/are rejected.
- 7) ☒ Claim(s) 9, 10, 33-35, 49, 50 and 52 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to Claims 1-79 have been considered but are moot in view of the new ground(s) of rejection.
-

The following claims have been rejected in light of the specification but rendered the broadest interpretation construed by the examiner [MPEP 2111].

Claim Objections

2. Claims 9 and 10 are objected to because of the following informalities: Applicant should elucidate with respect to the disposition of the lamps at two separate edge surfaces opposed to one another. The current context renders multiple interpretations whereby the multiplication would not suggest opposite ends only, but also multiples on the same side at opposed ends. Appropriate correction is required.

3. Claims 49 and 50 are objected to because of the following informalities: Applicant should elucidate with respect to the disposition of the lamps at two separate edge surfaces opposed to one another. The current context renders multiple interpretations whereby the multiplication would not suggest opposite ends only, but also multiples on the same side at opposed ends. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3-7, 11-16, 20-22, and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Lan (U.S. Patent 5075826).

5. With regards to Claim 1, Lan discloses an optical assembly including:

- At least one light emitting panel member [Figure 1: (3, 4)] having at least one input edge [Figure 1: (5, 6)] for receiving light from at least one light source [Figure 3: (9)]; and
- At least one pattern [Figure 1: (13); Column 2, Lines 39-42] of individual optical deformities [Figure 1: (14, 15)] on or in at least one surface area of the panel member for producing at least one light output distribution from the panel member, whereby each of the deformities having a length and width that is quite small in relation to the length and width of the one surface area [Figure 1: (13)], at least some of the deformities having at least one well defined surface [Figure 4], the at least one light output distribution that is produced by the pattern of individual optical deformities having a form and shape of at least one of text, graphics, logo or image [Figure 1].

6. With regards to Claim 3, Lan discloses the pattern [Figure 1: (13); Column 2, Lines 39-42] of individual optical deformities being in the shape of an element of text, graphics, or logo.

7. With regards to Claim 4, Lan discloses the panel member including another light output distribution [Figure 1: (13); e.g., the text, sun, trees, or water], and the at least

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one light output distribution [Figure 1: (13); e.g., text] is located in the another light output distribution [Figure 1: (13); e.g., water] of the panel member to create a watermark, security marking, label or other effect in the another output distribution having the form or shape of the text, graphics, logo, or image.

8. With regards to Claim 5, Lan discloses the optical deformities of the at least one pattern are varying in at least one of the following characteristics: size, shape, density, placement, angle, rotation, or type [Figure 1: (13, 14, 15)].

9. With regards to Claim 6, Lan discloses the optical deformities of the at least one pattern are varying to obtain a substantially uniform intensity of the at least one output distribution [Column 1, Lines 8-12].

10. With regards to Claim 7, Lan discloses the optical deformities of the at least one pattern being varied to obtain at least one multi-intensity output distribution [Figure 1: (13); e.g., the text, sun, trees, or water].

11. With regards to Claim 11, Lan discloses another pattern of individual optical deformities on or in another surface area of the at least one panel member for producing another light output distribution from the panel member [Figure 1: (13); e.g., the text, sun, trees, or water].

12. With regards to Claim 12, Lan discloses the another output distribution [Figure 1: (13); e.g., water] being substantially larger than the one output distribution [Figure 1: (13); e.g., sun].

13. With regards to Claim 13, Lan discloses the one output distribution [Figure 1: (13); e.g., text] is located in the another output distribution [Figure 1: (13); e.g., water] to

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create a watermark, security marking, label or other effect in the another output distribution having the form or shape of the text, graphics, logo, or image.

14. With regards to Claim 14, Lan discloses the deformities on or in the another surface area [Figure 1: (13); e.g., the text, sun, trees, or water] being varied in at least one of the following characteristics: size, shape, density, placement, angle, rotation, or type.

15. With regards to Claim 15, Lan discloses the deformities on or in the another surface area being varied to obtain the another output distribution that is substantially uniform with respect to illumination [Column 1, Lines 8-12].

16. With regards to Claim 16, Lan discloses the deformities on or in the another surface being varied to obtain another output distribution that is non-uniform with respect to shape [Figure 1: (13); e.g., trees].

17. With regards to Claim 20, Lan discloses a plurality of panel members [Figure 1: (3, 4)] in overlying relation to one another, whereby each of the panel members having at least one different light output distribution [Figures 1 and 3: (13)] that together produce at least one composite output distribution when viewed through the panel members from one side [Column 1, Lines 48-55].

18. With regards to Claim 21, Lan discloses including at least one other light emitting panel member [Figure 4: (4)] having a different light output distribution [Figure 4: (13)] than the one panel member [Figure 4: (3)], whereby the panel members are in overlying relation to one another for producing at least one composite output distribution when viewed through the panel members from one side [Column 1, Lines 48-55].

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19. With regards to Claim 22, Lan discloses the other panel member having at least one output distribution in the form or shape of at least one of text, graphics, logo, or image [Figure 1: (13); Column 2, Lines 53-60].

20. With regards to Claim 24, Lan discloses the output distribution of each of the panel members producing one or more parts of a more complex output distribution that is visible through the panel members from the one side [Figure 1; Column 1, Lines 48-55].

21. Claims 36-39 and 41-42 are rejected under 35 U.S.C. 102(b) as being anticipated by Lan (U.S. Patent 5075826).

22. With regards to Claim 36, Lan discloses an optical assembly including:

- At least one light emitting panel member [Figure 1: (3, 4)] having at least one input edge [Figure 1: (5, 6)] for receiving light from at least one light source [Figure 3: (9)]; and
- At least one pattern [Figure 1: (13); Column 2, Lines 39-42] of individual optical deformities [Figure 1: (14, 15)] on or in at least one surface area of the panel member for producing at least one light output distribution from the panel member, whereby each of the deformities having a length and width that is quite small in relation to the length and width of the one surface area [Figure 1: (13)], at least some of the deformities having at least one sloping surface [Figure 4: (14)], the at least one light output distribution that is produced by the pattern of individual optical deformities having a form and shape of at least one of text, graphics, logo or image [Figure 1].

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23. With regards to Claim 37, Lan discloses the panel member including another light output distribution [Figure 1: (13); e.g., the text, sun, trees, or water], and the at least one light output distribution is located in the another light output distribution of the panel member to create a watermark, security marking, label or other effect in the another output distribution having the form or shape of the text, graphics, logo, or image.

24. With regards to Claim 38, Lan discloses the optical deformities of the at least one pattern are varying in at least one of the following characteristics: size, shape, density, placement, angle, rotation, or type [Figure 1: (13, 14, 15)].

25. With regards to Claim 39, Lan discloses the at least one sloping surface [Figure 4: (13)] being planar.

26. With regards to Claim 41, Lan discloses the at least one panel member having top [Figure 1: (13); e.g., sun] and bottom surfaces [Figure 1: (13); e.g., water], and the at least one pattern of individual optical deformities is on or in the top surface of the at least one panel member [Figure 1: (13); e.g., sun].

27. With regards to Claim 42, Lan discloses the at least one panel member having top [Figure 1: (13); e.g., sun] and bottom [Figure 1: (13); e.g., water] surfaces, and the at least one pattern of individual optical deformities being on or in the bottom surface of the at least one panel member [Figure 1: (13); e.g., water].

28. Claims 58-63 are rejected under 35 U.S.C. 102(b) as being anticipated by Lan (U.S. Patent 5075826).

29. With regards to Claim 58, Lan discloses an optical assembly including:

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- At least one light emitting panel member [Figure 1: (3, 4)] having at least one input edge [Figure 1: (5, 6)] for receiving light from at least one light source [Figure 3: (9)]; and
- At least one pattern [Figure 1: (13); e.g., the text, sun, trees, or water; Column 2, Lines 39-42] of individual optical deformities [Figure 1: (14, 15)] on or in at least one surface area of the panel member for producing at least one light output distribution from the panel member, whereby each of the deformities having a length and width that is quite small in relation to the length and width of the one surface area [Figure 1: (13)], the at least one light output distribution that is produced by the pattern of individual optical deformities having a form and shape of at least one of text, graphics, logo or image [Figure 1: (13); e.g., the text, sun, trees, or water], and another pattern of individual optical deformities on or in another surface area of the panel member for producing another light output distribution from the panel member [Figure 1: (13); e.g., the text, sun, trees, or water].

30. With regards to Claim 59, Lan discloses the another output distribution [Figure 1: (13); e.g., water] being substantially larger than the one output distribution [Figure 1: (13); e.g., sun].

31. With regards to Claim 60, Lan discloses the one output distribution [Figure 1: (13); e.g., text] is located in the another output distribution [Figure 1: (13); e.g., water] to create a watermark, security marking, label or other effect in the another output distribution having the form or shape of the text, graphics, logo, or image.

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32. With regards to Claim 61, Lan discloses the deformities on or in the another surface area [Figure 1: (13); e.g., the text, sun, trees, or water] being varied in at least one of the following characteristics: size, shape, density, placement, angle, rotation, or type.

33. With regards to Claim 62, Lan discloses the deformities on or in the another surface area being varied to obtain the another output distribution that is substantially uniform with respect to illumination [Column 1, Lines 8-12].

34. With regards to Claim 63, Lan discloses the deformities on or in the another surface being varied to obtain another output distribution that is non-uniform with respect to shape [Figure 1: (13); e.g., trees].

35. Claims 67-69 and 71 are rejected under 35 U.S.C. 102(b) as being anticipated by Lan (U.S. Patent 5075826).

36. With regards to Claim 67, With regards to Claim 58, Lan discloses an optical assembly including:

- At least one light emitting panel member [Figure 1: (3)] having at least one input edge [Figure 1: (5)] for receiving light from at least one light source [Figure 3: (9)]; and
- At least one pattern [Figure 1: (13); e.g., the text, sun, trees, or water; Column 2, Lines 39-42] of individual optical deformities [Figure 1: (14, 15)] on or in at least one surface area of the panel member for producing at least one light output distribution from the panel member, whereby each of the deformities having a length and width that is quite small in relation to the length and width

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of the one surface area [Figure 1: (13)], the at least one light output distribution that is produced by the pattern of individual optical deformities having a form and shape of at least one of text, graphics, logo or image [Figure 1: (13); e.g., the text, sun, trees, or water], and at least one other light emitting panel [Figure 1: (4) having at least one light output distribution [Figure 3: (13)], whereby the panel members are in overlying relation to one another for producing at least one composite output distribution when viewed through the panel members from one side [Column 1, Lines 48-55; Claim 1].

37. With regards to Claim 68, Lan discloses the output distribution of each of the panel members being different [Figure 3: (13)].

38. With regards to Claim 69, Lan discloses the at least one output distribution of the other panel member in the form or shape of at least one of text, graphics, logo, or image [Figure 1: (13); Column 2, Lines 53-60].

39. With regards to Claim 71, Lan discloses the output distribution of each of the panel members producing one or more parts of a more complex output distribution that is visible through the panel members from the one side [Figure 1; Column 1, Lines 48-55; Claim 1].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

40. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lan (U.S. Patent 5075826).

Lan discloses the claimed invention as cited above, but does not specifically teach the individual optical deformities of the pattern surround an outline of each element of the text, graphics, logo, or image.

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the optical deformities to surround an outline of each element of the text, graphics, logo, or image, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japiske*, 86 USPQ 70. In this case, providing an outline rather than filling the entirety of the text, graphics, logo, or image with the individual deformities could provide a more aesthetic appeal.

41. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lan (U.S. Patent 5075826) as applied to Claims 1 and 9, respectively above, and further in view of Schöniger et al. (U.S. Patent 5027258).

Lan discloses the claimed invention as cited above, but does not specifically teach the at least one light source being colored to obtain at least one colored output distribution.

Schöniger teaches a display unit including light emitting diodes of different colors so as to obtain at least one colored output distribution [Column 7, Lines 12-13].

It would have been obvious to one ordinarily skilled in the art at the time the invention was made to modify the optical assembly of Lan to incorporate the light

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emitting diodes of different colors, as taught by Schöniger, in order to produce different illuminating effects [See Schöniger: Column 7, Line 13] and an aesthetically pleasing display.

42. Claims 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lan (U.S. Patent 5075826) as applied to Claim 11 above, and further in view of Pristash et al. (U.S. Patent 5005108).

Lan discloses the claimed invention as cited above, but does not specifically teach the intensity of the one output distribution being greater than (re: Claim 17) or less than (re: Claim 18) the intensity of the another output distribution, nor teaches the intensity of the one output distribution varying (re: Claim 19).

Pristash teaches an optical assembly including light panels, wherein, "The light output pattern or uniformity of light output from these output regions 77-79 may be controlled by varying the shape, depth and frequency of the deformities 87 relative to the input light ray distribution [Column 6, Lines 11-15]." Pristash further teaches, "The angles and/or depth of these prismatic surfaces 32 may be varied along the length of the panel 30 to produce uniform or other desired light output from the other side 36 of the panel [Column 4, Lines 34-37]."

It would have been obvious to one ordinarily skilled in the art at the time the invention was made to modify the optical assembly of Lan to incorporate varying output patterns with different intensities, as taught by Pristash, in order to provide an aesthetic appeal or desired optical effect with respect to the illumination.

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43. Claims 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lan (U.S. Patent 5075826) as applied to Claim 21 above, and further in view of Schöniger et al. (U.S. Patent 5027258).

44. With regards to Claim 23, Lan discloses the claimed invention as cited above, but does not specifically teach the panel members receiving light from at least one different colored light source to produce at least one multi-colored composite output distribution when viewed through the panel members from the one side.

Schöniger teaches at least two input edges at opposite ends of a panel member [Figure 3: (23) on the left and right] receiving light from different colored light sources [Figure 7: (15); Column 7, Lines 12-13], thereby producing a dynamic and multi-colored output distribution [Column 3, Lines 22-35].

It would have been obvious to one ordinarily skilled in the art at the time the invention was made to modify the optical assembly of Lan to incorporate the light emitting diodes of different colors, as taught by Schöniger, in order to produce different illuminating effects [See Schöniger: Column 7, Line 13] and an aesthetically pleasing display.

45. With regards to Claim 24, Lan in view of Schöniger discloses the claimed invention as cited above. In addition, Lan teaches the output distribution of each of the panel members producing one or more parts of a more complex output distribution that is visible through the panel members from the one side [Figure 1; Column 1, Lines 48-55].

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46. Claims 25-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lan (U.S. Patent 5075826) as applied to Claims 1 and 21 above, and further in view of Pristash et al. (U.S. Patent 5005108).

47. With regards to Claims 25-27 and 29, Lan discloses the claimed invention as cited above, but does not specifically teach the intensity of at least one output distribution of each of the panel members being different and creates at least one multi-intensity composite output distribution that is visible through the panel members from one side (re: Claim 25), nor a display overlying the one side of the overlying panels (re: Claims 26, 29) and said display being a liquid crystal display (re: Claim 27).

Pristash teaches an optical assembly including light panels, wherein, "The light output pattern or uniformity of light output from these output regions 77-79 may be controlled by varying the shape, depth and frequency of the deformities 87 relative to the input light ray distribution [Column 6, Lines 11-15]." Pristash further teaches, "The angles and/or depth of these prismatic surfaces 32 may be varied along the length of the panel 30 to produce uniform or other desired light output from the other side 36 of the panel [Column 4, Lines 34-37]."

In addition, Pristash teaches, "As will be apparent, the various thin panel illuminators disclosed herein may be used for a great many different applications, including for example general lighting, phototherapy treatment, and radiation curing of adhesives and epoxies and the like. Typical general lighting applications include back lighting of liquid crystal displays or transparencies or the like, task lighting, machine vision lighting, safety lighting for both commercial and industrial as well as automotive

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applications, explosion-proof lighting, underwater lighting, display lighting and infrared heating and the like [Column 8, Lines 13-31].”

It would have been obvious to one ordinarily skilled in the art at the time the invention was made to modify the optical assembly of Lan to incorporate varying output patterns with different intensities, as taught by Pristash, in order to provide an aesthetic appeal or desired optical effect with respect to the illumination. Such ostentatious displays would further bring attention to their surrounding.

It is further obvious that one could incorporate a display, specifically a liquid crystal display, on a side of the overlying panels, which is considered a matter of design choice as taught by Pristash.

48. With regards to Claim 28 and 30-32, Lan in view of Pristash discloses the claimed invention as cited above, but Lan does not specifically teach at least one light redirecting film between the display and one of the panel members that allows different light output distributions to be seen when the panel members are viewed through the display from different angles (re: Claims 28, 30), at least one light redirecting film in close proximity to the at least one panel member (re: Claim 31), nor said film being a prismatic, lenticular brightness enhancing, or light management film (re: Claim 32).

However, Pristash teaches, “a second prismatic film may be placed in closely spaced relation to the panel prismatic surface to redirect the emitted light rays toward a particular application [Column 1, Lines 39-42].” It should be noted that the structural limitation with respect to the redirecting film being disposed between the display and panel member is a matter of design preference and optical effect, whereby the above

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references are considered functionally equivalent. It is also commonly held in the art that liquid crystal displays have a redirecting film disposed between the display and light guide/pipe.

In this case, it would have been an obvious matter to one ordinarily skilled in the art at the time the invention was made to modify the optical assembly of Lan to incorporate the redirecting/prismatic film of Pristash to provide a particular application/optical effect with respect to the illumination.

49. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lan (U.S. Patent 5075826).

Lan discloses the claimed invention as cited above, but does not specifically teach the at least one sloping surface being curved.

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the sloping surface with a curved shape, since it has been held to be within the general skill of a worker that mere change of form or shape of an invention involves only routine skill in the art. *Span-Deck Inc. v. Fab-Con, Inc.* (CA 8, 1982) 215USPQ 835. In this case, providing the sloping surface with a curved shape would allow for a desired optical effect with respect to the illumination.

50. Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lan (U.S. Patent 5075826).

Lan discloses the claimed invention as cited above, but does not specifically teach the at least one panel member including two or more layers.

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the panel member with multiple layers, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8. In this case, multiple layers/panel members would allow for a desired optical effect with respect to the illumination.

51. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lan (U.S. Patent 5075826) as applied to Claim 36, and further in view of Schöniger et al. (U.S. Patent 5027258).

Lan discloses the claimed invention as cited above, but does not specifically teach the at least one panel member receiving light from at least two different colored light sources.

Schöniger teaches a display unit including light emitting diodes of different colors so as to obtain at least one colored output distribution [Column 7, Lines 12-13].

It would have been obvious to one ordinarily skilled in the art at the time the invention was made to modify the optical assembly of Lan to incorporate the light emitting diodes of different colors of Schöniger, in order to produce different illuminating effects [See Schöniger: Column 7, Line 13] and an aesthetically pleasing display.

52. Claims 45-48, 51, and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lan (U.S. Patent 5075826) in view of Schöniger et al. (U.S. Patent 5027258).

53. With regards to Claim 45, Lan discloses an optical assembly including:

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- At least one light emitting panel member [Figure 1: (3, 4)] having at least one input edge [Figure 1: (5, 6)] for receiving light from at least two light sources [Figure 3: (9)]; and
- At least one pattern [Figure 1: (13); Column 2, Lines 39-42] of individual optical deformities [Figure 1: (14, 15)] on or in at least one surface area of the panel member for producing at least one light output distribution from the panel member, whereby each of the deformities having a length and width that is quite small in relation to the length and width of the one surface area [Figure 1: (13)], the at least one light output distribution that is produced by the pattern of individual optical deformities having a form and shape of at least one of text, graphics, logo or image [Figure 1].

Lan does not specifically teach the at least two light sources being two different colors.

Schöniger teaches a display unit including light emitting diodes of different colors so as to obtain at least one colored output distribution [Column 7, Lines 12-13].

It would have been obvious to one ordinarily skilled in the art at the time the invention was made to modify the optical assembly of Lan to incorporate the light emitting diodes of different colors of Schöniger, in order to produce different illuminating effects [See Schöniger: Column 7, Line 13] and an aesthetically pleasing display.

54. With regards to Claim 46, Lan in view of Schöniger discloses the claimed invention as cited above, whereby Schöniger teaches a display unit including light

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emitting diodes of different colors so as to obtain at least one colored output distribution [Column 7, Lines 12-13].

55. With regards to Claim 47, Lan in view of Schöniger discloses the claimed invention as cited above. It is an obvious design choice to one ordinarily skilled that one could implement the different colored light emitting diodes via chips that emit different colors, which is again commonly known in the art.

56. With regards to Claim 48, Lan in view of Schöniger discloses the claimed invention as cited above. Lan does not specifically teach the different colored light sources being flashed to produce a desired colored light output distribution.

Schöniger teaches, "The illuminating elements in the form of LED(s) may more especially be in different colors as required for advertising purposes so that by switching the elements on and off or dimming them it is possible to produce a large number of different colors and hues by mixing effects. It is also possible to associate different light guide battens with different parts of the light guide panel, such light guide battens however respectively having a plurality of differently colored illuminating elements. As a result it is then possible to illuminate these different zones of the light guide panel in different variations in different colors, it also being possible to consider the dynamic lighting effects or the like [Column 3, Lines 22-35; underline added by examiner for correction]."

It would have been obvious to one ordinarily skilled in the art at the time the invention was made to modify the optical assembly of Lan to incorporate the different

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colored light sources with flashing, as taught by Schöniger, in order to provide a more ostentatious and aesthetically pleasing display.

57. With regards to Claim 51, Lan in view of Schöniger discloses the claimed invention as cited above. In addition, Lan teaches the panel member including another light output distribution [Figure 1: (13); e.g., the text, sun, trees, or water], and the at least one light output distribution is located in the another light output distribution [Figure 1: (13); e.g., water] of the panel member to create a watermark, security marking, label or other effect in the another output distribution having the form or shape of the text, graphics, logo, or image.

58. With regards to Claim 53, Lan in view of Schöniger discloses the claimed invention as cited above. In addition, Lan teaches the optical deformities being prismatic [Figure 4].

59. Claims 54-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lan (U.S. Patent 5075826) in view of Schöniger et al. (U.S. Patent 5027258) as applied to Claim 45 above, and further in view of Pristash et al. (U.S. Patent 5005108).

60. With regards to Claims 54 and 55, Lan in view of Schöniger discloses the claimed invention as cited above, but neither Lan nor Schöniger specifically teaches at least one light redirecting film in close proximity to the at least one panel member (re: Claim 54), nor said film being a prismatic, lenticular brightness enhancing, or light management film (re: Claim 55).

However, Pristash teaches, "a second prismatic film may be placed in closely spaced relation to the panel prismatic surface to redirect the emitted light rays toward a

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particular application [Column 1, Lines 39-42].” It should be noted that the structural limitation with respect to the redirecting film being disposed between the display and panel member is a matter of design preference and optical effect, whereby the above references are considered functionally equivalent. It is also commonly held in the art that liquid crystal displays have a redirecting film disposed between the display and light guide/pipe.

In this case, it would have been an obvious matter to one ordinarily skilled in the art at the time the invention was made to modify the optical assembly of Lan in view of Schöniger to incorporate the redirecting/prismatic film of Pristash to provide a particular application/optical effect with respect to the illumination.

61. With regards to Claims 56-57, Lan in view of Schöniger discloses the claimed invention as cited above, but does not specifically teach a display overlying the one side of the overlying panels (re: Claim 56) and said display being a liquid crystal display (re: Claim 57).

Pristash teaches, “As will be apparent, the various thin panel illuminators disclosed herein may be used for a great many different applications, including for example general lighting, phototherapy treatment, and radiation curing of adhesives and epoxies and the like. Typical general lighting applications include back lighting of liquid crystal displays or transparencies or the like, task lighting, machine vision lighting, safety lighting for both commercial and industrial as well as automotive applications, explosion-proof lighting, underwater lighting, display lighting and infrared heating and the like [Column 8, Lines 13-31].”

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It would have been obvious to one ordinarily skilled in the art at the time the invention was made to modify the optical assembly of Lan to incorporate varying output patterns with different intensities, as taught by Pristash, in order to provide an aesthetic appeal or desired optical effect with respect to the illumination. Such ostentatious displays would further bring attention to their surrounding.

It would have been obvious to one ordinarily skilled in the art at the time the invention was made to modify the optical assembly of Lan in view of Schöniger to incorporate a display, specifically a liquid crystal display, on a side of the overlying panels, which is considered a matter of design choice as taught by Pristash.

62. Claims 64-66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lan (U.S. Patent 5075826) as applied to Claim 58 above, and further in view of Pristash et al. (U.S. Patent 5005108).

Lan discloses the claimed invention as cited above, but does not specifically teach the intensity of the one output distribution being greater than (re: Claim 64) or less than (re: Claim 65) the intensity of the another output distribution, nor teaches the intensity of the one output distribution varying (re: Claim 66).

Pristash teaches an optical assembly including light panels, wherein, "The light output pattern or uniformity of light output from these output regions 77-79 may be controlled by varying the shape, depth and frequency of the deformities 87 relative to the input light ray distribution [Column 6, Lines 11-15]." Pristash further teaches, "The angles and/or depth of these prismatic surfaces 32 may be varied along the length of

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the panel 30 to produce uniform or other desired light output from the other side 36 of the panel [Column 4, Lines 34-37].”

It would have been obvious to one ordinarily skilled in the art at the time the invention was made to modify the optical assembly of Lan to incorporate varying output patterns with different intensities, as taught by Pristash, in order to provide an aesthetic appeal or desired optical effect with respect to the illumination.

63. Claim 70 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lan (U.S. Patent 5075826) as applied to Claim 67 above, and further in view of Schöniger et al. (U.S. Patent 5027258).

Lan discloses the claimed invention as cited above, but does not specifically teach each of the panel members receiving light from at least one different colored light sources to produce at least one multi-colored composite output distribution when viewed through the panel members from the one side.

Schöniger teaches an illuminated display, and further teaches, “In this manner it is possible for the three zones 30 to 32 to be supplied with light by the respective three LED(s) 15 in the holding frame 23 independently of each other, that is to say for instance in three differing colors which are sequenced in accordance with a program [Column 7, Lines 36-41; underline added by examiner for correction].”

It would have been obvious to one ordinarily skilled in the art at the time the invention was made to modify the optical assembly of Lan to incorporate the light emitting diodes of different colors, as taught by Schöniger, in order to produce different

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illuminating effects [See Schöniger: Column 7, Line 13] and an aesthetically pleasing, multi-colored display.

64. Claims 72-75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lan (U.S. Patent 5075826) as applied to Claim 67 above, and further in view of Pristash et al. (U.S. Patent 5005108).

65. With regards to Claims 72-74, Lan discloses the claimed invention as cited above, but does not specifically teach the intensity of at least one output distribution of each of the panel members being different and creating at least one multi-intensity composite output distribution that is visible through the panel members from one side (re: Claim 72), nor a display overlying the one side of the overlying panels (re: Claim 73) and said display being a liquid crystal display (re: Claim 74).

Pristash teaches an optical assembly including light panels, wherein, "The light output pattern or uniformity of light output from these output regions 77-79 may be controlled by varying the shape, depth and frequency of the deformities 87 relative to the input light ray distribution [Column 6, Lines 11-15]." Pristash further teaches, "The angles and/or depth of these prismatic surfaces 32 may be varied along the length of the panel 30 to produce uniform or other desired light output from the other side 36 of the panel [Column 4, Lines 34-37]."

In addition, Pristash teaches, "As will be apparent, the various thin panel illuminators disclosed herein may be used for a great many different applications, including for example general lighting, phototherapy treatment, and radiation curing of adhesives and epoxies and the like. Typical general lighting applications include back

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lighting of liquid crystal displays or transparencies or the like, task lighting, machine vision lighting, safety lighting for both commercial and industrial as well as automotive applications, explosion-proof lighting, underwater lighting, display lighting and infrared heating and the like [Column 8, Lines 13-31].”

It would have been obvious to one ordinarily skilled in the art at the time the invention was made to modify the optical assembly of Lan to incorporate varying output patterns with different intensities, as taught by Pristash, in order to provide an aesthetic appeal or desired optical effect with respect to the illumination. Such ostentatious displays would further bring attention to their surrounding.

It is further obvious that one could incorporate a display, specifically a liquid crystal display, on a side of the overlying panels, which is considered a matter of design choice as taught by Pristash.

66. With regards to Claim 75, Lan in view of Pristash discloses the claimed invention as cited above. Lan does not specifically teach at least one light redirecting film between the display and one of the panel members that allows different light output distributions to be seen when the panel members are viewed through the display from different angles.

However, Pristash teaches, “a second prismatic film may be placed in closely spaced relation to the panel prismatic surface to redirect the emitted light rays toward a particular application [Column 1, Lines 39-42].” It should be noted that the structural limitation with respect to the redirecting film being disposed between the display and panel member is a matter of design preference and optical effect, whereby the above

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references are considered functionally equivalent. It is also commonly held in the art that liquid crystal displays have a redirecting film disposed between the display and light guide/pipe.

In this case, it would have been an obvious matter to one ordinarily skilled in the art at the time the invention was made to modify the optical assembly of Lan in view of Schöniger to incorporate the redirecting/prismatic film of Pristash to provide a particular application/optical effect with respect to the illumination.

Allowable Subject Matter

67. Claims 33-35 and 52 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

68. Claims 76-79 are allowed.

69. The following is a statement of reasons for the indication of allowable subject matter: With regard to Claims 33, 52, and 76, the prior art fails to teach or suggest the combination of structural elements disclosed and claimed herein, specifically the disclosure of multiple optical deformities located on two opposed sides of an edge lit device to form a composite image. All subsequent dependent claims are allowed.

Conclusion


Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Han whose telephone number is (571) 272-2207. The examiner can normally be reached on 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Stephen Husar
Primary Examiner